



FW: DuSable Park RAD Issues

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Martwick

07/20/2007 10:34 AM

Cc: "Baratta, Bob", "Vickery, Randall G.", ewalsh, "Kornder, Steve"

History: This message has been forwarded.

Good Afternoon:

This email provides a brief summary of the surface screening results requested by the USEPA on July 2, 2007 for the areas disturbed during placement of the jersey barrier along the sheet pile perimeter. The screening was performed between July 2 and 6, 2007 following procedures outlined in sections 5.1 through 5.3 of SOP 210 (attached). Figure 1 presents an overlay of the grid (approximately 5 X 5 meters) as well as the locations of the pits/areas excavated by Kerr McGee in 2002.

The maximum gamma count for the surface grid survey of the disturbed (jersey barrier) areas and the 2002 pits is provided in the enclosed table (refer to "surface_gamma_results_July07.pdf"). The maximum gamma count results for the disturbed area were between 8,500 and 11,000 cpm which are well below the Ludlum cutoff threshold value of 18,563 cpm for 7.1 pCi/g total radium.

A surface gamma background for the Park was also established by taking six 5-minute readings at various locations across the Park. Based on these results, the background for the Park is approximately 7,400 counts per minute (cpm). None of the observed readings for the disturbed "jersey barrier" areas were greater than twice background (i.e., values greater than twice background are considered potentially as points of interest).

Following the surveying of the areas along the sheet pile wall, the USEPA visited the test pits/sample locations identified by Kerr McGee in 2002 (refer to attached PDF). Each of the areas consisted of a shallow pit filled with numerous orange sand bags which appeared to be underlain by a sheet of black plastic. Unshielded Ludlum readings were obtained by USEPA and STS which both appeared to give similar results. The gamma readings were made at the top or edges of the sand bags (i.e., the sand bags were not removed to obtain readings directly over the pit soils). As indicated in the attached Figure 1, elevated thorium levels were detected in these areas. These elevated areas have been cordoned off with orange fencing with caution signs posted.

The proposed construction laydown area to be built on DuSable Park is shown in Figure 2.0. The laydown area will be approximately 75' by 350' in size with a north to south orientation. An access road to the laydown area will be constructed south of the existing mounds. The road will be built just north of the known thorium impacted area designated as Area C. The access road will be approximately 30' wide and will require a cut into the southern portion of the south mound of approximately 6-8 inches. The area will be graded level and additional stone brought in to balance the area, if needed. An excavation of 6-12 inches into the soil mounds will be required on the eastern portion of the laydown area. STS will monitor the installation and grading required for the construction of the laydown area and access road to ensure that deeper excavations into the mounds are not made. After completion of the laydown area, additional fencing will be placed around the perimeter of the mounds to ensure no equipment or materials are stored atop the mounds. If the impacts to the existing soil mounds for the construction of the laydown area will exceed the previously screened upper 18" of soil, STS will screen this area pursuant to a plan to be submitted under separate cover. Improvement of the laydown area and access road are subject to Chicago Park District approval.

Please feel free to contact me if you have any questions regarding this information.

EPA Region 5 Records Ctr.



348135

Regards,

Don

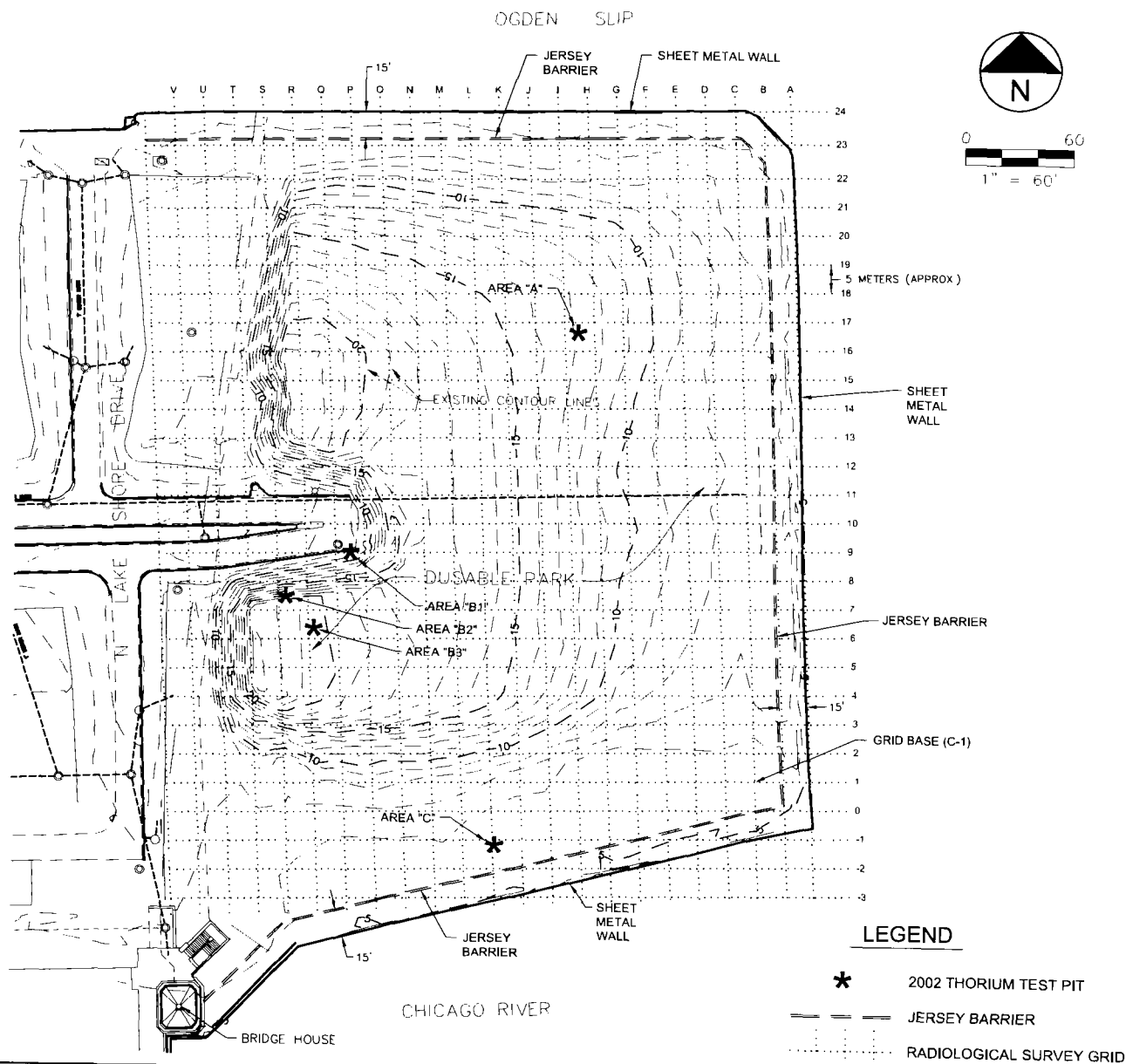
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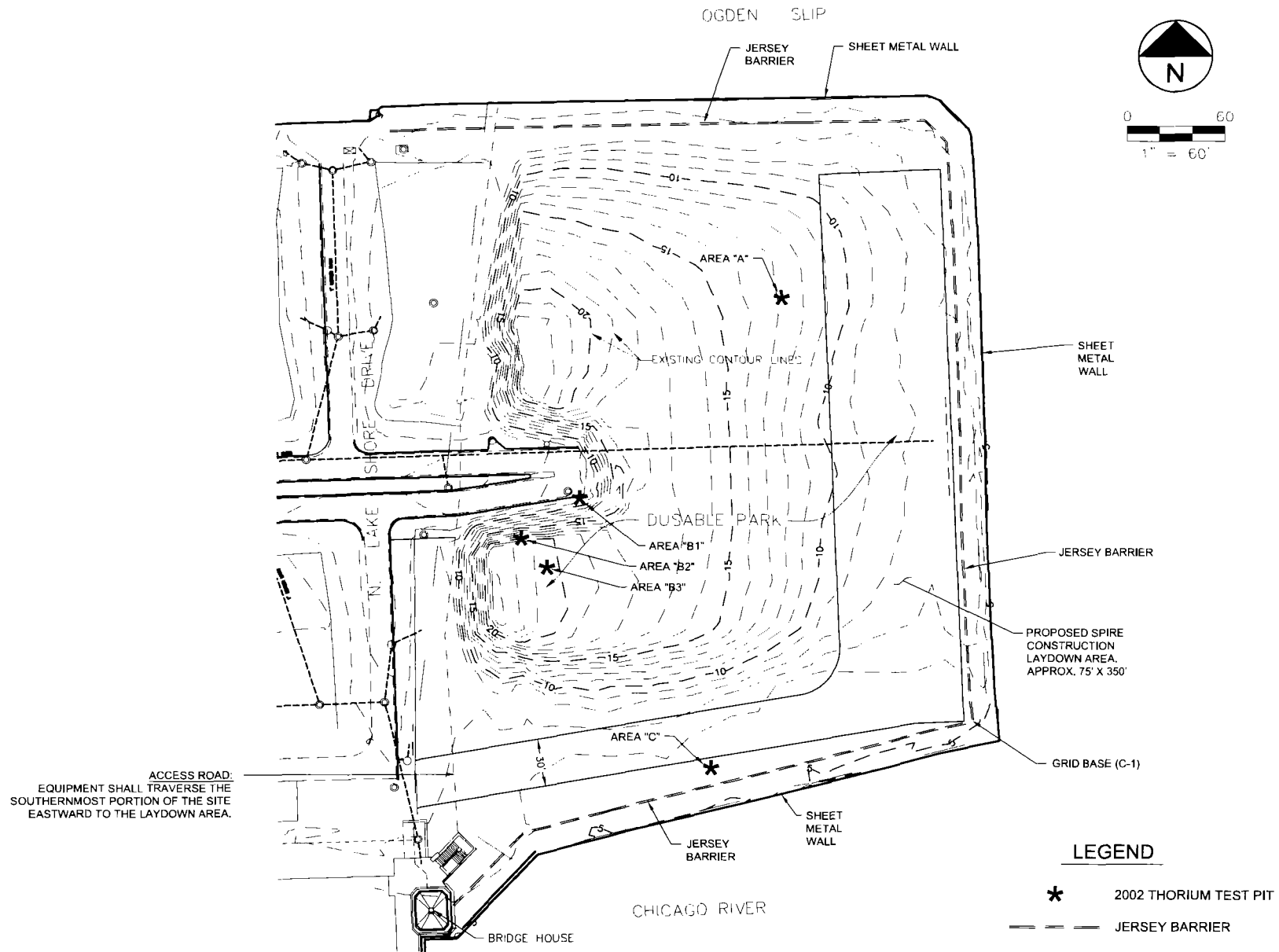


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RADIOLOGICAL SURFACE SURVEY
 DUSABLE PARK SITE
 CHICAGO, ILLINOIS

Drawn:	EMP 07/09/2007
Checked:	SCX 07/09/2007
Approved:	WHW
PROJECT NUMBER	200702842
FIGURE NUMBER	1.0

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CONSTRUCTION LAYDOWN &
 CONSTRUCTION TRAFFIC FLOW EXHIBIT
 DUSABLE PARK SITE
 CHICAGO, ILLINOIS

Drawn:	EMP 07/09/2007
Checked:	DMAC 07/09/2007
Approved:	WHW
PROJECT NUMBER	200702842
FIGURE NUMBER	2.0

SHELBOURNE SITE, E. NORTH WATER STREET, CHICAGO, IL

PARCEL 1 AND PARCEL 2

STANDARD OPERATING PROCEDURE

Title: Gamma Radiological Surveys

Document: SOP-210

Revision Number: 1

Date: November 1, 2006

GAMMA RADIOLOGICAL SURVEYS

1.0 PURPOSE

This procedure provides protocols for pre-verification or verification gamma radiological surveys.

2.0 SCOPE

Radiological surveys will be performed at the designated Site as part of the pre-excavation, excavation, pre-verification, and/or verification surveying programs.

3.0 REFERENCES

None.

4.0 EQUIPMENT AND MATERIALS

The following equipment may be used as part of the survey programs. Other equipment may be substituted if necessary because of availability of the items listed or the conditions encountered at the site.

- Trimble Pathfinder Pro XR 4.1 GPS (optional).
- 2-inch by 2-inch NaI (TI) gamma detector.
- Ludlum Model 2221 portable scaler ratemeter analyzer.

5.0 INSTRUCTIONS FOR RADIOLOGICAL SURVEY

5.1 Establishment of Background Gamma Count Rate

- 5.1.1 The gamma count rate background levels shall be established for each applicable survey instrument. Six randomly selected locations of similar media (i.e., paved, landscaped, etc.) shall be chosen in non-radiologically impacted areas of the Site. A five-minute integrated count shall be obtained at the surface of each location for each survey instrument (Ludlum 2221 with 2" X 2" NaI probe). The measurements collected from each location shall be averaged to establish an instrument specific background gamma count rate.

5.2 Land Survey Procedure

- 5.2.1 Two perpendicular baselines will be established.
- 5.2.2 A grid along the baseline will be established using cloth or steel tape and a compass, if necessary. Stakes, survey flags, or paint will be placed as needed to delineate grid or traverse lines. The grids will be spaced about five meters apart.
- 5.2.3 The baseline, permanent structures, areas of remediation, and other areas of interest will be illustrated in the field logbook.

5.3 Gamma Survey Procedure

- 5.3.1 The Ludlum ratemeter is set for 2-second time-weighted average count rate.
- 5.3.2 Hold the survey meter probe parallel to the ground surface at a height of approximately two to six inches.

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5.3.3 Walk along grid lines at a maximum speed of about 0.5 meters per second (1 mile per hour).

5.3.4 Continue surveying until all survey grids have been traversed.

5.4 Radiological Survey of On-Site Materials

5.4.1 Material that is excavated and placed in the clean stockpile will be surveyed two times. The first survey will be performed prior to excavation activities.

5.4.2 The second survey will be performed during the excavation of the non-contaminated soil.

The soils will be surveyed before they are placed in the stockpile. Based on the gamma scan, the material will either be designated as contaminated material and immediately loaded for transportation and disposal or tentatively designated as clean and stockpiled for subsequent soil sampling per SOP-214.

5.5. Daily Surveys

5.5.1 Routine daily surveys shall be performed for each day of operations at the site.

5.5.2 The routine surveys will monitor areas in the immediate vicinity of excavations and along soil movement paths to ensure that radiation levels are not affected by activities.

5.5.3 Routine surveys shall be documented by preparing a drawing of the survey results in the field logbook, indicating either the location and value of individual measurements, or contours of the measured gamma field.

5.5.4 Surveys of excavation areas will be made at the request of the Field Team Leader to assess the progress of the removal. These surveys will not be documented, but will be used by the Field Team Leader to manage the excavation.

5.6 Pre-Verification or Verification Survey

5.6.1 Upon completion of excavation activities, either a pre-verification survey shall be performed to ensure that the excavation is ready for a final verification survey by USEPA or a verification survey shall be performed to ensure that the excavation is ready for backfill based on USEPA approval.

5.6.2 The survey is conducted at the same time as the excavation work phase. The survey method is performed as specified in Sections 5.2 and 5.3. Upon completion of the survey and excavation phase, a Notification of Successful Pre-Verification or Verification is sent to the USEPA requesting a final verification survey or approval to backfill.

5.7 Site Grading Survey

5.7.1 Surveys will likely be conducted at the same time as the grading activities and will be performed as specified in Section 5.3 of this SOP.

5.7.2 The corners or boundaries of the area to be surveyed will be tied into a site-wide coordinate/survey network. Stakes, survey flags, or paint will be placed along the boundaries of the survey area using a cloth/steel tape or wheel at approximately 5 meter intervals to subdivide the area into 5 x 5 meter areas.

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- 5.7.3 Each 5 X 5 meter area will be traversed using a line spacing of approximately 1 meter. Readings greater than twice background will be painted and flagged for further investigation.
- 5.7.4 The maximum gamma count and readings over twice background will be recorded on the radiation survey form for site grading. Permanent structures and other issues of interest also will be included on the radiation survey form.

DuSable Park Surface Gamma Survey
Maximum Gamma Counts (CPM)
July 2007

Grid Row & Column	Ogden Slip																	
	R-S	Q-R	P-Q	O-P	N-O	M-N	L-M	K-L	J-K	I-J	H-I	G-H	F-G	E-F	D-E	C-D	B-C	A-B
23-24	6900	6800	5700	5500	6400	7600	10000	10600	8600	8700	8300	8500	9800	7600	9000	10200	10900	7100
22-23	6100	7200	8000	8000	7800	7900	9900	10600	9400	9600	10100	9900	9100	9300	9400	7900	9000	7400
21-22	6400	7700	9000	9500	9500	9200	9600	11000	8100	9300	8900	9900	8900	8700	8300	9200	8300	9300
20-21																8200	8800	10400
19-20																8700	9700	9100
18-19																9700	10400	9400
17-18																8500	13200	12100
16-17											Pit A 19200					6400	7000	9900
15-16																6300	7700	10500
14-15																6800	8800	8900
13-14																6500	9300	10400
12-13																8600	9800	10500
11-12																8300	10800	9200
10-11																10800	8700	8100
9-10																10800	9800	7900
8-9			Pit B1 15000													10700	9800	8600
7-8	Pit B2 21000															10200	8300	7200
6-7		Pit B3 19500														10000	9600	10000
5-6																10600	8600	8800
4-5																9500	10000	9300
3-4																9500	8300	8900
2-3																9200	8300	9600
1-2																10900	9100	9000
0-1																10900	9100	9000
-1 - (-2)								Pit C 21300								10900	9100	9000
-2 - (-3)																10900	9100	9000
Chicago River																		

Ogden Slip

Chicago River

Notes: - Instrument threshold of 18,563 counts per minute equivalent to USEPA cleanup level of 7.1 pCi/g total radium
 - Approximate grid size 5 X 5 meters